Les A. Cartier and Associates, Inc.

Plan 2 of 3

Plan for Lead Dust Wipe Analysis
Lead Dust Hazard Mitigation Plan

Project:

Residential Units

195 McGregor Street,
Manchester, NH 03102

Proposed Final Plan: August 11, 2015

Prepared By:

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1.0 Executive Summary

American Environmental Testing Services, LLC (AETS) has been retained by Les A. Cartier and Associates, Inc. to perform lead dust analysis inspections and risk assessments at 195 McGregor St., Manchester in response to a renovation project in the building which allowed lead dust to migrate into the occupied residential units and commercial space.

Plan is proposed in three parts:

1. Plan for Lead Risk Assessment and Lead Exposure Hazard Reduction for Lofts at Mill West, Stairwells and Common Areas, 195 McGregor St., Manchester, NH

2. Plan for Lead Dust Wipe Analysis and Lead Dust Hazard Mitigation for Lofts at Mill West, 195 McGregor St., Manchester, NH

3. Plan for Unoccupied Spaces (first and second floors) dust mitigation and renovation for Lofts at Mill West, 195 McGregor St., Manchester, NH

The purpose of this three part plan is to 1) provide full risk assessments in six (previously seven) selected units based upon children present and / or pregnant women identified, with the assessment of the physical condition of components containing lead-based paint in units; common areas and stairwells 2) identify the existence, nature, severity, source and location of dust containing lead (or document that no such hazards were identified) by interpreting analytical measurements of lead in dust, and clean thoroughly where required, and 3) assess unoccupied spaces for dust, mitigate hazards previously identified and propose a renovation plan for these spaces. This document is Plan 2.

The following activities have been completed under either Plan 1 or Plan 2:

1. 98 residential units have been sampled in 10-14 locations each for lead dust per HUD protocol. Cleaning and retesting have been accomplished, with all units achieving passing results. Cleaning activities included:

   a. Cleaning of interior window sills, troughs, and wells (EPA task 1)

   b. Cleaning of finished walls (EPA task 7)

   c. Cleaning of ledges and casings surrounding windows (EPA task 9)

   d. Cleaning of areas between floorboards and bottom of baseboards (EPA task 9)

   e. Cleaning of rugs and soft furniture (EPA task 12)

2. Interior common areas (hallways and stairwells) have been sampled for lead dust per HUD protocol. The lower level amenities and leasing office have passed clearance standards. Concentrations are significantly reduced in the hallways, and these areas will be re-cleaned and cleared once all stairwell abatements have been completed, to ensure no contamination is reintroduced.

3. Risk assessments, including XRF inspections, have been conducted in six units occupied by young children.

This plan (Plan2) presents the prioritization, approach, and schedule for completing the remaining tasks for residential units requested by EPA in its July 20, 2015 letter. Currently, all 98 residential units have achieved lead dust clearance standards on all floors, window sills and window wells. Based

on the analysis of Gradient, there is no current health risk to occupants of these units. (see Gradient 2015 memo – Appendix A-5)

2.0 Site Description

195 McGregor St. is a 5 story multi-use mill building with 98 residential units on its north side and commercial units to the south. The building underwent renovation by sandblasting in an unoccupied area of the first floor. Poor engineering controls and improper containment allowed lead dust to migrate to the occupied units, interior common areas and some commercial units. Brady Sullivan owns the north end of the building, including the residential units on the 3rd and 4th floors, as well as the unoccupied and unimproved first and second floor spaces. The south end of the building includes common areas owned by the condominium association, and several commercial units; some are owned by Brady Sullivan and some have other owners. Appendix C contains a list of names and contact information for all commercial unit owners.

3.0 Definitions of Lead Based Paint, Lead in Dust and Lead in Soil

The State of NH & U.S. Department of Housing and Urban Development (HUD) have established a definition of lead-based paint as a dried paint film that contains lead greater than **0.5% by weight** when utilizing laboratory analysis or **equal to greater than 1.0 mg/cm^2** when utilizing X-Ray Fluorescence (XRF) analysis.

The following lead in dust threshold values are utilized to determine when corrective actions are required:

SURFACE	THRESHOLD LIMIT
Floors	40 ug/ft^2
Interior window sills	250 ug/ft^2
Window wells (troughs)	400 ug/ft^2
Exterior sills	800 ug/ft^2

The NH regulation for lead in soil is 400 ppm for play areas or high contact areas and 1200 ppm for residential yards.

4.0 Risk Assessments and XRF Testing in Child Occupied Units (6) (See Plan 1)

Included in Plan 1 are detailed XRF Reports of six (6) child occupied and/or pregnant women identified units (previously seven, one vacated 7/8/15). Field measurements by XRF have been taken using standards set forth in the HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, 2012 and He-P 1608.03 Requirements for a Risk Assessment. These inspections are full lead paint hazard inspections and include an abatement plan (LEHRP) and will include abatement of all lead exposure hazards identified.

5.0 Prioritization and Approach for Additional Lead Dust Mitigation in Residential Units:

5.1Summary of Previous Work

Work completed by mid-July, 2015, included collection of lead dust wipe samples from all unit interior floors, window sills, and window troughs, cleaning of these features, and retesting until lead dust clearance standards were achieved. The majority of units have two windows in the living room. Certain units (on building ends and those that include an outside tower) have additional windows in other rooms. Floor lead dust wipe samples were also collected from kitchens, baths, bedrooms and loft that had no windows.

The results of this lead dust inspection indicated that eighty eight (88) of the ninety eight (98) units tested by AETS contained lead in the amounts greater than or equal to 40 ug/ft ^{2} on the floors, 250 ug/ft^2 in dust on the window sills or 400 ug/ft^2 in dust on the window wells. Appendix A includes a summary table of dust wipe results for each of the 98 units sampled, together with complete chain of custody forms for each unit. Appendix A also includes several bar charts summarizing the pre-cleaning lead dust wipe results for each unit. Although all units are now clean, in that all surfaces have achieved clearance standards, a review of the pre-cleaning data can be used to understand patterns of dust contamination that occurred as a result of the construction work, and to identify and prioritize the need for additional cleaning tasks. Based on these data, the following observations can be made:

- Units 313 and 413 had the highest maximum lead dust wipe results. These units are on the east side of the building, and include an additional room in a tower outside the main part of the building. The tower has windows on two sides, and it seems likely that a cross breeze pulled more dust into these units than into other units with windows on only one side.
- Third floor units on the east side, north or the unit 313 towner, generally had higher lead dust wipe results than did other units.
- With a few exceptions, only rooms with windows had pre-cleaning floor lead dust wipe results that exceeded the clearance standard. Floor in the vast majority of rooms without windows (including kitchens) did not have pre-cleaning lead levels that exceeded the clearance standard.

Additional discussion of these results is included in Appendix A

5.2 Prioritization and Additional Planned Work

Additional planned work can be separated into tasks that can be done from the exterior of the building vs. tasks that require entry into units.

Exterior work will begin immediately (week of August 17,2015) and includes the following tasks:

- Vacuuming and wet cleaning of exterior window sills, troughs, and sashes (EPA task 5)

- Screens will be removed from the exterior, cleaned, and replaced (EPA task 3)

Additional cleaning of units from the interior will include tasks listed in Section 6 below and will be done in the following order:

- Units occupied by young children (5 units; 312, 322, 331, 409, 428) (Note that unit 421 is also occupied by young children, but pre-cleaning lead dust wipe results showed no exceedances of clearance standards, thus no further cleaning is needed.)

- Units occupied by mentally disabled adults (consult with leasing office to ascertain)

- Units that had pre-cleaning maximum window well dust lead loading greater than 3000 ug/ft^2, or pre-cleaning maximum floor dust lead loading greater than 2000 ug/ft^2 (11 units: 302, 304, 305, 307, 309, 313, 330, 339, 413, 414, 424)

(this approach prioritizes those units most likely to have settled lead dust on additional surfaces not yet cleaned)

- Any units requested by tenants, prioritized to first clean those occupied by women of child-bearing age

- Remaining units upon vacancy. When tenants renew leases, cleaning will be offered for those units not previously cleaned. All units to be completed within a 2 year period (either as a result of vacancy, or as part of the renewal process).

6.0 Cleaning Guidelines for Residential Units

The following cleaning guidelines are used:

Cleaning: EP A RRP Guidelines, Chapter 5 (APPENDIX B)

Cleaning: HUD Guidelines, Chapter 14 (APPENDIX B)

Cleaning: NH He-P 1600 Guidelines 1608.11 (APPENDIX B)

Lead Dust Hazards are corrected through the utilization of cleaning methods as prescribed by EPA RRP Rule, HUD Guidelines and He-P 1600. Re-sampling is performed as soon as possible following a thorough cleaning (although no sooner than one hour). All corrective action is performed by appropriately trained and or licensed individuals. Cleaning and Interim Controls currently require the use of licensed lead abatement professionals.

EPA's July 20, 2015 letter listed 19 tasks. Each is specifically addressed below. A unit specific checklist has been developed (attached) that will give the cleaning professionals precise areas to clean which will then be cleared by the risk assessor using the same information so as to alleviate confusion on standards and expectations.

Specific Clean-up Activities: 1-19

1. HEPA vacuum and wet cleaning to remove all dust from interior window sills, troughs, and wells. This should be done from the interior. Clearance sampling would then be required using a standard of 250 ug/ft^2 for window sills and 400 ug/ft^2 for window troughs. ***Completed by 7/15/15, results attached as Appendix A***

2. HEPA vacuum and wet cleaning of window sashes using a visual observation standard to remove visible dust (no quantitative clearance standard available). Sashes will be cleaned from interior during additional work to be completed in each unit, in priority order listed in Section 5.2

3. HEPA vacuum of window screen from the interior to the extent possible using a visual observation standard to remove visible dust. Window screen will be removed from exterior as part of exterior work, washed, and reinstalled. In Progress

4. HEPA vacuum of window treatments using a visual observation standard to remove visible dust where the window treatment is a soft material (i.e., drapes, curtains). HEPA vacuum and wet cleaning of window treatments to remove visible dust where

the window treatment is a hard material (i.e., mini blind). Units are outfitted with mini blinds. Mini blinds will be removed from units, washed and reinstalled. This work will occur during other interior work, in priority order listed in Section 5.2

5. HEPA vacuum and wet cleaning of exterior window sills and troughs for paint chips and dust. Clearance sampling would then be required using a standard of 250 ug/ft^2 for window sills and 400 ug/ft^2 for window troughs. To be complete as part of the exterior work. Note that exterior masonry sills have a clearance standard of 800 ug/ft2 and will be representatively sampled as they are cleaned. In Progress

6. HEPA vacuum and wet cleaning of brick walls using a visual observation standard to remove all visible dust. Extra care should be taken around the perimeter of windows to clean brick sills and horizontal and vertical surfaces between individual bricks. This work will occur during other interior work, in priority order listed in Section 5.2.

7. HEPA vacuum and wet cleaning of finished walls to remove all visible dust. Completed by 7/15/15

8. HEPA vacuum and wet cleaning of all ledges and casing (interior vertical and horizontal) surfaces around each window. Completed by 7/15/15

9. HEPA vacuum and wet cleaning using appropriate crevice attachments of the area between floorboards and the bottom of baseboards. Clearance sampling would then be required using a standard of 40 ug/ft^2. HEPA vacuum and wet cleaning as feasible of all baseboards to remove visible dust. Completed by 7/15/15

10. HEPA vacuum and wet cleaning of other permanent or semi-permanent horizontal surfaces such as tops of kitchen cabinets, lighting fixtures, ledges created by architectural wall openings between rooms, bookcases, tall dressers and ceiling fans, focusing on horizontal surfaces within each unit that might readily accumulate dust and might not regularly be cleaned as part of routine housekeeping. Cleaning should be conducted to a visual observation standard to remove all visible dust. This cleaning will only take place in rooms that contain windows,, other than for units 303, 305, 309, 313, 319, 328, 349, and 437, where it will take place in all rooms. For all other units, rooms without windows had pre-cleaning floor lead dust wipe results below clearance standards, making it unlikely that there is any significant settled lead dust on other horizontal surfaces in these rooms. This cleaning step will not take place in units where no pre-cleaning floor lead dust wipe result in any room exceeded clearance standard. This work will occur during other interior work, in priority order listed in Section 5.2

11. Other surfaces and personal terns are not required by EPA to be cleaned of dust at this time. However, on a case-by-case basis, the Respondent should consider the thorough cleaning of other areas and objects within each unit if deemed necessary and appropriate (i.e., bedrooms). Noted

12.HEPA vacuum of rugs and soft furniture (i.e., couches) to remove all visible dust. Completed by 7/15/15

13.All cleaning should be conducted from higher levels to lower levels within each unit.
Completed by 7/15/15

14.Representative clearance sampling should be conducted to confirm the adequacy of cleaning activities. In Progress

15.HEPA vacuum the filters in each unit's HVACsystem. HEPAvacuum and wet cleaning of HVACregisters and vents unless representative sampling shows that HVAC registers and vents throughout the units do not pose a concern. Filters will be replaced. This work will commence week of August 17, 2015.

16.HEPA vacuum and wet cleaning of common areas of the building that residents use. HEPA vacuum the filters of the HVAC system in common areas. HEPA vacuum and wet cleaning of HVAC registers and vents unless representative sampling shows that HVAC registers and vents throughout the common areas do not pose a concern. Ongoing cleaning in common hallways, passing clearance on majority of areas by 7/15/15

17.The Respondent shall also develop a plan to assess and mitigate the risk of exposure to lead contaminated soil and building exterior around the perimeter of the building. There is no soil on the west side of the building, and very little soil on the east side of the building, insufficient to serve as a play area, thus there is very limited or no opportunity for exposure. As of 8/11/15, there was no bare soil. These limited soil areas will be covered by tarps during exterior building work.

18.Develop an Operations and Maintenance (O&M) Plan to address any lead-based paint and/or lead-based paint hazards that might remain in the property and that could pose lead exposures hazards if not properly checked and maintained. The O&M plan should include a description of the steps that will be taken if additional lead dust issues arise. In Progress

19.In accordance with EPA's Lead Disclosure requirements, new lead testing records/reports that are developed through the completion of the Plan's work should be included with any new disclosures to prospective tenants, along with any other existing lead records and reports. The new lead records/reports should be disclosed to each tenant and prospective tenant. Proper lead disclosure includes lead records and reports pertinent to each specific unit and to common areas. Additional information can be found at: http://www2.epa.gov(lead/realestate-disclosure) Noted

7.0 SUMMARY

Floors, window sills and window wells cleaned to date have achieved clearance standards in all 98 units. As a result, opportunity for exposure to lead in the units is low, and based on the analysis of Gradient, there is no current health risk to occupants of these units. Nevertheless, Brady Sullivan plans to continue several cleanup and mitigations activities as detailed in this plan to reduce

the potential for future lead exposure. (see Gradient 2015 memo – Appendix A-5).

Specific Clean-up for Additional Unit Interior Work

This checklist will be modified so that it is specific for each unit.

1. HEPA vacuum and wet cleaning of window sashes using a visual observation standard to remove visible dust (no quantitative clearance standard available).

2. Remove mini blinds for cleaning and reinstall.

3. HEPA vacuum and wet cleaning of interior brick walls from floor to ceiling using a visual observation standard to remove all visible dust. Extra care should be taken around the perimeter of windows to clan brick sills and horizontal and vertical surfaces between individual bricks.

4. HEPA vacuum and wet cleaning in rooms with windows of other permanent or semi-permanent horizontal surfaces such as tops of kitchen cabinets, lighting fixtures, ledges created by architectural wall openings between rooms, bookcases, tall dressers and ceiling fans, focusing on horizontal surfaces within each unit that might readily accumulate dust and might not be regularly cleaned as part of routine housekeeping. Cleaning should be conducted to a visual observation standard to remove all visible dust.

5. Replace filter in HVAC system.

State of New Hampshire
Healthy Homes and Lead Poisoning Prevention Program
Member of CONEST

LICENSED RISK ASSESSOR

WARREN LASKEY

License # RA-000029

Expires: 01/01/2015

Jose Thier Montero, MD
Director, Division of Public Health

NOT A LEGAL FORM OF ID

Training Due: **08/20/16**
Testing Due: **01/17/17**